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LESS EXPENSIVE INTERNAL MANAGEMENT OPTIONS MAY BE VIABLE ALTERN--ETC(U)  
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UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

FEDERAL PERSONNEL AND  
COMPENSATION DIVISION

B-205706

APRIL 19, 1982

The Honorable Ted Stevens  
Chairman, Subcommittee on Defense  
Committee on Appropriations  
United States Senate

The Honorable Roger W. Jepsen  
Chairman, Subcommittee on  
Manpower and Personnel  
Committee on Armed Services  
United States Senate

The Honorable Pete V. Domenici  
Chairman, Committee on the Budget  
United States Senate

The Honorable Joseph P. Addabbo  
Chairman, Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

The Honorable Bill Nichols  
Chairman, Subcommittee on Military  
Personnel and Compensation  
Committee on Armed Services  
House of Representatives

The Honorable James R. Jones  
Chairman, Committee on the Budget  
House of Representatives

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Subject: Less Expensive Internal Management Options May Be  
Viable Alternatives for Countering Critical  
Military Skill Shortages (FPCD-82-16)

For a number of years service representatives have voiced  
the concern that they have experienced, are experiencing, and will  
continue to experience shortages of enlisted personnel possessing  
certain needed "critical skills." To counter this problem, the

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services have requested across-the-board pay increases and numerous other monetary incentives (e.g., enlistment and selective reenlistment bonuses) and benefit packages (e.g., educational benefits) as inducements to attract and retain enlisted personnel. The Congress will consider additional measures during 1982.

Because of the continuing concern of your committees for approving only the most cost-effective and necessary programs to counter critical skill shortage problems, we believe the services should assure that their requests for new monetary incentives and out of cycle and/or extraordinary pay increases are submitted only after they have demonstrated that less expensive internal management options are not available. As we stated during testimony in 1981, we do not believe that the services have adequately demonstrated and justified their needs when requesting approval for monetary inducements to counter critical skill shortages. The services have not, in our opinion, fully explained the nature, scope, and impact of their shortages and have not provided a balanced picture of why shortages exist. They have primarily addressed recruiting and retention issues by requesting more money and, in our opinion, have not adequately informed the Congress of other management actions which have caused, aggravated, or could alleviate shortages.

While we agree that the services are facing some serious manpower problems which urgently need to be addressed, we believe, as stated in prior testimony, that the services must continue to examine their own personnel policies and practices to determine whether they are counterproductive and actually cause or aggravate critical skill shortages. Such measures are largely within the control of the services and if modified may represent a more cost effective approach for reducing critical skill shortages.

While preparing for our 1981 testimony, we learned about an Air Force effort aimed at addressing critical skill problems. Because of our desire to see manpower shortages addressed more cost effectively, we reviewed the Air Force's effort to determine the extent and nature of Air Force shortages; what factors the Air Force identified as contributing to shortages; and what the Air Force is doing, and plans to do, to minimize future manpower shortages by modifying personnel management policies and practices. The detailed results of our review are contained in enclosure I.

The Air Force's study illustrates that (1) factors causing or contributing to critical skill shortages can and do vary by occupation and even by grade within occupations, (2) some shortages of skilled personnel have resulted not only from insufficient retention, but also from the Air Force's own personnel policies and procedures and management practices, and (3) many shortage problems can be addressed and alleviated by means other than an infusion of across-the-board monetary packages. Moreover, their findings demonstrate the need to be more specific in addressing personnel shortages in congressional testimony.

In addition to poor retention, the Air Force identified five factors which have contributed significantly to current and projected future manpower shortages. They are:

- Current and future emphasis on modernizing and expanding the size of the force has resulted not only in the need for more personnel, but personnel with more technical abilities.
- Reducing the size of the force after Vietnam by decreasing recruiting rather than separating surplus careerists, particularly those in overmanned skills and/or those eligible to retire, resulted in imbalances. This approach to meeting congressionally imposed cuts in enlisted end strength, which aggravated personnel shortages, was in part influenced by the lack of a satisfactory loss control mechanism, such as severance pay for involuntarily separated personnel, as well as reductions in recruiting resources.
- Historical Air Force decision not to separate, at the time of reenlistment, surplus career airmen who perform satisfactorily generally intensifies manning imbalances.
- Imbalanced grade authorizations in selected occupations result in both personnel shortages and excesses.
- The Air Force's equal selection opportunity promotion policy gives eligible enlisted personnel in each occupation an equal percentage opportunity for promotion regardless of actual need or existing manning.

The last three factors are, in our opinion, prime examples of personnel policies and practices which can cause or aggravate manpower shortages in selected skills. These factors have contributed to manning imbalances in the Air Force which in the aggregate is essentially 100-percent manned. They have helped create surpluses of personnel in selected occupations which simply exacerbate shortages in other occupations since the overall force size is constrained by the congressionally imposed fiscal year personnel end strength.

→ The Air Force is taking measures to at least temporarily relieve the shortages <sup>certain</sup> these policies have aggravated by:

- 1. Restructuring grade authorizations in all occupations to make them more self-supporting;
- 2. Temporarily modifying the promotion policy to increase the percentage of promotions in the most critically short occupations;

→ p. 4

~~3~~ Increasing and targeting retraining efforts to move surplus airmen to the most critically short occupations and at the lowest grade possible;

~~2~~ Intensifying prior service recruiting to more quickly eliminate shortages of mid-level noncommissioned officers in selected shortage occupations;

~~4~~ Selectively allowing personnel possessing needed shortage skills to continue service beyond normal retirement points.

~~2~~ Returning to selected critically short occupations qualified personnel who are presently performing other duties, or are working in other occupations. → 8.5

These findings illustrate the position we stated in testimony that manpower shortages can at least in part be attributed to service personnel policies and practices. We believe the Air Force's measures, along with a fair and adequate compensation package, offer a viable approach for addressing personnel problems without the need for infusing large sums of money for new incentives. The measures also address more specifically some of the causes of personnel shortages and could possibly reduce the magnitude and frequency of monetary incentive requests. Additionally they demonstrate, as we have previously stated, the need to address shortages in the more appropriate context of personnel imbalances considering such factors as

--how shortages are computed;

--criteria used in determining when a shortage is, or is expected to be, critical;

--which skills are considered critical and short;

--what impact critical shortages have on mission accomplishment;

--the causes of not only shortages, but also overages;

--which causes are within the control of the services and which are not; and

--what the services are doing to address and modify personnel policies and practices which aggravate critical skill shortages.

In addition to a carefully managed compensation/bonus program, we believe that some critical skill shortages can be reduced more cost effectively by modifying personnel policies and practices which exacerbate shortages. As we stated in testimony, we believe that across-the-board pay increases and other monetary inducements

alone are not the most cost-effective means for reducing personnel shortages, and that the Congress needs to be alerted to the benefits and costs of alternative solutions--especially those that are within the control of the services themselves.

The impact of all personnel policies and practices on skill manning must be continuously considered and assessed. Of prime importance is the extent to which personnel objectives may be conflicting. For example, an equal selection opportunity promotion policy may help to eliminate career stagnation in certain occupations, but at the same time create or aggravate skill imbalances. We believe that the impact of personnel policies and practices should be assessed on an occupational basis to determine their short- and long-run effects on personnel shortages.

We believe the information we gathered will assist your respective committees and subcommittees in considering future military manpower measures and alert you to some initiatives identified to address shortages. We recognize that the Air Force's manning and shortage problems are perhaps of a lesser magnitude than in the other services and that the causes may in fact differ. We believe, however, that the Air Force's approach of systematically identifying and addressing shortage problems could serve as a model for all the services to follow.

We are sending copies of this report to the Secretary of Defense; the Secretaries of the Air Force, Army, and Navy; Director, Office of Management and Budget; and other interested persons.

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DOD and the Air Force, Navy, and Marine Corps commented orally on our report. All agreed that many skill shortage problems can be alleviated by modifying personnel policies and practices, and that monetary incentives alone should not be relied on to resolve shortages. They emphasized that monetary incentives are an essential ingredient which must be used in conjunction with other management initiatives in resolving skill shortages. ↗

The Air Force also stated that the personnel policies it implemented and followed in the 1970s were based on "the best knowledge of the situation at the time." Air Force also agreed that the approach of reducing the enlisted force after Vietnam by decreasing recruiting, while retaining skilled, experienced personnel, was expensive and currently resulted in some shortages in the number of careerists in the 5 to 10 years length of service. However, the Air Force did point out that this approach may actually have resulted in a higher experience level in certain skills today. To clarify our position, we advocated that careerists with retirement eligibility in excess of stated occupational needs should have been separated. We recognize that under

both approaches some manning shortfalls would obviously exist because manpower requirements are now increasing as the size of the force is expanded. We continue to believe, however, that options selected to contract and expand the size of the force should be the most cost-effective and provide the ultimate desired mix and configuration of the enlisted force. A necessary balance in recruiting and retention must be achieved to minimize the opportunities for creating/aggravating skill imbalances.

The Navy and Marine Corps pointed out that their manning and shortage problems are different than the Air Force's. They emphasized, and we agree, that the reasons for/causes of their shortfalls are different and that different solutions are therefore required.

  
Clifford I. Gould  
Director

Enclosures - 2

OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this assignment was to review the Air Force's effort aimed at addressing critical skill shortages. Our work included a review of (1) the extent and nature of the Air Force enlisted personnel shortages, (2) factors the Air Force identified as contributing to personnel shortages, and (3) what the Air Force is doing, and plans to do, to better manage its enlisted personnel to minimize future personnel shortages.

We gathered and analyzed Air Force enlisted personnel manning data and discussed personnel shortage issues with key Air Force manpower and personnel officials at Headquarters, U.S. Air Force; the Manpower and Personnel Center, Randolph AFB, San Antonio, Texas; and Headquarters, Tactical Air Command, Langley AFB, Hampton, Virginia. We interviewed officials from numerous manpower and personnel functional areas, including requirements determination, force structure, recruiting and accessions, training and retraining, enlisted personnel assignments and utilization, promotions, retention and attrition, and personnel readiness.

Our review was performed between March and December 1981, in accordance with our Office's current "Standards for Audit of Government Organizations, Programs, Activities, and Functions."

AIR FORCE ENLISTED  
PERSONNEL IMBALANCES

Air Force personnel shortages are the difference between funded authorized spaces for an occupation at a specified skill level and the number of personnel in the inventory who, for assignment purposes, meet those requirements.

Because the Air Force's end of fiscal year personnel inventory usually is at or very close to its congressionally authorized end strength, shortages of personnel in selected occupations or grades are offset by overmanning in other occupations or grades. For example, the Air Force projects that at the end of fiscal year 1982 it will be short 17,000 E-5s through E-7s in selected occupations. However, because the Air Force expects to have the 193,000 E-5s through E-7s it is authorized in total, the 17,000 shortage will be offset by overages in other occupations and grades.

Therefore, the Air Force's enlisted personnel shortages are more appropriately discussed in the context of overall enlisted skill imbalances, taking into account both overages and shortages within and between occupations.



CHRONIC CRITICAL  
SHORTAGE SKILLS

In an effort to focus on its most serious manning problems and because of concerns expressed by senior Air Force officials regarding a "lack of stripes on the flight lines," the Air Force established an Enlisted Imbalance Working Group in September 1980 to define and identify the Air Force's critical skills. The Air Force believed it was necessary to first define and identify the "critical skills" so that the scope and appropriateness of special management actions to reduce imbalances could then be determined and focused on those skills considered most critical.

In identifying the Air Force's chronic critical shortage (CCS) skills, the study group focused on mission essential occupations with projected skill level 7 (E-6 and E-7) manning below 90 percent of authorized strength and combined skill levels 5 (E-4 and E-5) and 7 manning below 90 percent. Also considered CCS skills were those occupations with skill level 7 manning projected to be below 80 percent of authorized strength regardless of skill level 5 manning. In applying these criteria, the Air Force used projected end of fiscal year 1982 authorizations and the actual personnel inventory as of September 30, 1981.

Using these criteria the study group identified 73 of the Air Force's 257 total skills as CCS skills. These occupations have projected authorizations for the end of fiscal year 1982 of about 64,000 E-5s through E-7s. The Air Force projects it will have about 11,300 (18 percent) shortages in these occupations. These shortages are focused in aircraft related maintenance occupations, with 9,300, or 82 percent, being in the avionics, aircraft systems, aircraft maintenance, and munitions/weapons maintenance career fields. A complete list of the current CCS skills and the projected end of fiscal year 1982 shortages is contained in enclosure II.

FACTORS CONTRIBUTING TO  
ENLISTED SKILL IMBALANCES VARY

In identifying factors which affect enlisted personnel shortages, the Air Force did not attempt to quantify the impact of each of the factors identified because there are so many factors that jointly affect personnel shortages. Instead, the Air Force took the approach of identifying their own past and present policies, practices and procedures, and management decisions which had undoubtedly contributed to the enlisted personnel shortage problems, and which if not modified could exacerbate the problem and make future Air Force attempts to alleviate the problem futile.

The Air Force identified five factors as major contributors to personnel imbalances. Two of the factors were not totally within the Air Force's control and relate to the desired experience mix of enlisted personnel and the overall size of the force. They are the (1) loss management philosophy used in reducing personnel strength after Vietnam, and (2) current emphasis on tactical aircraft modernization. With the end of the Vietnam conflict the Air Force enlisted strength decreased from about 571,790 in 1973 to about 457,229 in 1980. To meet congressionally directed personnel strength cuts, the Air Force reduced its enlisted force primarily by decreasing recruiting, rather than by separating at reenlistment points excess careerists, particularly those in overmanned skills and/or those eligible for retirement. According to Air Force officials this approach was influenced by the lack of a satisfactory loss control mechanism such as severance pay for involuntarily separated personnel, as well as reduced recruiting resources. The Air Force believed this was the only viable and logical approach in the short run. In retrospect, we believe that this approach may have caused problems. For example, with a current view toward increasing the size of the force, the loss management employed may have created a void by not developing and maintaining an adequate pipeline of people to replace the skilled, experienced personnel who were retained under the Air Force's approach and who have now left, or soon will leave, the service.

Additionally, as we pointed out in a prior report, 1/ a reduction in force approach which emphasizes retention of experienced personnel and a reduction in recruiting can cost millions of dollars annually in active duty pay and retirement costs when it results in a force structure containing excess careerists. In assessing and selecting approaches for both contracting and expanding the force, we believe options should be considered and selected which are realistic and cost effective and which optimize enlisted force configuration by occupation, grade, and length of service.

Current efforts to modernize the Air Force's tactical aircraft and to increase the number of aircraft also will have a significant impact on enlisted personnel shortages in the future. For example, during the Vietnam strength drawdown, the Air Force basically had the number of aircraft maintenance personnel it needed. The significant shortfall it currently is projecting is partially the result of increased authorizations as a result of increasing requirements. Additionally, as new aircraft with more complex electronics systems are introduced, more people with new skills will likely be needed.

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1/"Urgent Need for Continued Improvements in Enlisted Career Force Management" (FPCD-77-42, Sept. 29, 1977).

The Air Force also identified the following three factors as having contributed to personnel imbalances:

- Occupational fields which, because of their grade authorizations, are not self supporting.
- The Air Force's equal selection opportunity promotion policy.
- The policy of not separating surplus career airmen from overmanned occupations.

#### Poorly grade-structured occupations

In reviewing its Air Force Specialty Codes, AFSCs, (occupations/skills), the Air Force identified four different categories of occupational structures: (1) self-supporting skills, which are pyramidal in structure, mirror the inventory, and are capable of producing the needed number of career noncommissioned officers (NCOs), (2) labor-intensive skills which have higher personnel requirements at the lower grades and are capable of producing more than the required number of NCOs, (3) supervisory-intensive skills which have greater personnel requirements at the higher grades than the lower ones and therefore require retraining career personnel into the occupation, and (4) "irregularly-structured" AFSCs which have disparate personnel grade requirements (e.g., 100 E-4s, 50 E-5s, 200 E-6s). Partially as a result of these structures, personnel imbalances have been created since some skills are capable of producing many more NCOs than are needed, while others cannot produce enough under equal selection promotion opportunity. The Air Force believes these grade structure imbalances should be minimized, but not completely eliminated due to fundamental differences in job requirements.

#### Air Force equal selection opportunity promotion policy

The Air Force developed and adopted its equal selection opportunity promotion policy in the early 1970s in an attempt to counter enlisted personnel complaints and congressional concern about career stagnation. Under the policy enlisted personnel eligible for promotion to the next grade were afforded an equal percentage opportunity for advancement by AFSC. For instance, if for fiscal year 1981, the Air Force had been able to promote 15 percent of its eligible E-5s to E-6, 15 percent of the eligible E-5s in each occupation would have been promoted to E-6 regardless of the need for E-6s in each occupation. This policy was applied to every occupation regardless of (1) whether surpluses or shortages at the E-6 grade existed in the occupation, (2) the retention pattern in the occupation, and (3) whether there was even a need for E-6s in an occupation. As a result, occupations and grades

which were overmanned became more overmanned and those which were short continued to be short unless other actions such as retraining were taken. We recognize, however, that even without equal selection opportunity, some retraining would be required to balance the force in light of the necessary supervisory and labor-intensive requirements of certain occupations.

Applying the promotion policy to occupations which are not self-supporting in grade structure can exacerbate manning shortages by intensifying existing imbalances and creating new ones. For example, in an occupation the total number of E-5s eligible for promotion to E-6 may be more than enough to support the required number of E-6 vacancies. When the equal promotion percentage is applied, however, the result could be that the required number of E-5s are not promoted to E-6. On the other hand, in a skill which has a great number of eligible E-5s, but very few E-6 vacancies, the application of the equal promotion percentage could result in more promotions to E-6 in that skill than are actually needed. The end result is that the desired total number of Air Force personnel are promoted from E-5 to E-6, but they are not assigned to the needed occupations.

Surplus career  
airmen not separated

The Air Force has historically not separated surplus career airmen who perform satisfactorily. At the first reenlistment point airmen are required to have a career job reservation. In essence, first-term reenlistees generally are not permitted to reenlist in overmanned occupations. At the second and subsequent reenlistment points, however, the same criteria have not historically been applied. These individuals have been permitted to reenlist in their skills regardless of the manning levels. Therefore, unless sufficient voluntary or involuntary retraining is initiated, overmanned skills are perpetuated. In addition to exacerbating skill imbalances, retention of surplus career personnel is very costly. For example, as we pointed out in FPCD-77-42, dated September 1977, excess careerists cost all the services at least \$116.4 million in fiscal year 1976 alone.

AIR FORCE EFFORTS TO ALLEVIATE  
ENLISTED IMBALANCES

The Air Force is demonstrating its concern for personnel shortages by showing it is aware that the problems and causes of enlisted personnel shortages are multidimensional. The Air Force is attempting to project now what its future shortages will be and is examining its personnel management policies, practices, and procedures to identify needed changes which will help alleviate skill imbalances.

The Air Force is currently developing and implementing numerous initiatives which it believes will alleviate some of the imbalance problems or at least provide a better opportunity for attaining the desired balance. The Air Force has not quantified the projected impact of these initiatives. The initiatives include:

- Restructuring occupation grade authorizations to make them more self supporting. The Air Force has developed grade manning factors for each career progression group (i.e., 3-digit AFSC), which will be used to bring the authorizations by grade to a more self-supporting state. The manning factors were established on the basis of ratios which mirror the grade ratios of the total force as closely as possible, while respecting the skill level requirements of each AFSC. Through the application of restructuring, which is currently underway, the Air Force hopes to alleviate unnecessary imbalances by making occupations more self supporting. If successful, this initiative will minimize the need to retrain individuals from one occupation to another, especially at the higher grades.
- Temporarily modifying the Air Force equal selection opportunity promotion program to help decrease imbalances by promoting more eligible enlisted personnel in the occupations where chronic critical shortages exist. While the new policy is a positive step, it still will result in some promotions for certain occupations which are not needed. At the end of 3 years the Air Force plans to review the program and decide if it should be continued.
- Targeting retraining programs to the chronic critical shortage skills and accomplishing retraining at as low a grade as possible. In the past, retraining has been permitted and encouraged for almost any undermanned skill and at any grade. With the identification of its CCS skills the Air Force is now able to prioritize its most critical skills and to target retraining at those skills. In addition, the Air Force is concentrating on retraining individuals from surplus occupations at the staff sergeant or lower grade to its most critical shortage skills. The Air Force is assessing the impact of retraining in an effort to channel as many retrainees into each occupation as can be absorbed without unacceptably diluting the experience levels of supervisors in the gaining and losing occupations.
- Intensifying prior service recruiting. Prior service recruiting goals are being increased from 3,800 in fiscal year 1981 to 6,000 in fiscal year 1982. The Air Force is developing a plan to direct prior service

recruiting at chronic critical shortage skills. This initiative represents a quicker approach to solving shortages of mid-level NCOs than recruiting, training, and grooming non-prior service personnel, or retraining careerists.

- Selectively allowing NCOs in CCS skills approaching normal, mandatory retirement points to continue their service. By granting such extensions the Air Force will fill some of the experienced personnel shortages it faces until adequate numbers of lower grade personnel attain the desired experience and skill levels to fill the shortage voids.
- Returning to CCS skills qualified NCOs who are presently performing other responsibilities or working in other skills. For example, in the area of aircraft maintenance skills which represent a significant portion of the projected end-of-fiscal year 1982 personnel shortages, the Air Force has identified about 15,000 trained personnel who are not currently serving in an aircraft maintenance occupation. The Air Force hopes to return 2,000 of these individuals to aircraft maintenance skills through fiscal year 1984. At this point, however, little work has been accomplished to determine the practicality of this goal. The Air Force plans to assess whether these individuals are performing in other CCS skills, whether they have the necessary grade and skill level, and whether after variable periods of working out of the skill, the individuals can still meet the physical and skill tests.

**AIR FORCE CHRONIC CRITICAL SHORTAGE (CCS) SKILLS  
PROJECTIONS FOR FISCAL YEAR 1982**

Career Field	Air Force Specialty Code	Title	Skill Level 5 (E-4 and E-5)			Skill Level 7 (E-6 and E-7)			Skill Levels 5 and 7 (E-4 thru E-7)		
			Auth.	Asgn.	%	Auth.	Asgn.	%	Auth.	Asgn.	%
<b>1100</b>		<b>Aircraft Operations</b>									
	(1) 111XC	Defensive Aerial Gunner	246	322	130.9	208	150	72.1	454	472	104.0
	(2) 112XC	Inflight Refueling Operator	366	506	138.3	329	251	76.3	695	757	106.9
	(3) 113XC	Performance Qualified Flight Engineer	809	1,065	131.6	1,576	1,219	77.3	2,385	2,284	95.6
	(4) 115XC	Pararescue/Recovery Specialist	148	176	118.9	106	53	49.1	256	229	89.5
<b>Total 1100X CCS Skills</b>			<b>1,569</b>	<b>2,069</b>	<b>131.9</b>	<b>2,221</b>	<b>1,673</b>	<b>75.3</b>	<b>3,790</b>	<b>3,742</b>	<b>96.7</b>
<b>2000</b>		<b>Intelligence</b>									
	(5) 201XC	Target Intelligence Specialist	256	139	54.3	118	97	82.2	374	236	63.1
	(6) 202XOP	Radio Communication Security	61	92	150.8	45	31	68.9	106	123	116.0
	(7) 203XC	Linguist/Interrogator Spec.	13	21	161.5	47	35	74.5	66	56	93.3
	(8) 205XC	Electronic Intell. Operations Spec.	399	201	50.4	179	121	67.6	578	322	55.7
	(9) 206XC	Imagery Interpreter	397	306	77.1	143	124	86.7	540	430	79.6
	(10) 208X1	Crypto Linguist Spec. - Germanic	85	67	78.8	30	19	63.3	115	86	74.8
	(11) 208X2	Crypto Linguist Spec. - Romance	102	84	82.4	24	16	66.7	126	100	79.4
	(12) 208X3	Crypto Linguist Spec. - Slavic (note a)	708	667	94.2	315	261	82.9	1,022	928	90.7
	(13) 208X4	Crypto Linguist Spec. - Far East	275	341	124.0	133	88	66.2	408	429	105.1
	(14) 208X5	Crypto Linguist Spec. - Mid East	198	204	103.0	65	41	63.1	263	245	93.2
<b>Total 2000X CCS Skills</b>			<b>2,494</b>	<b>2,122</b>	<b>85.1</b>	<b>1,099</b>	<b>832</b>	<b>75.8</b>	<b>3,593</b>	<b>2,955</b>	<b>82.2</b>
<b>2500</b>		<b>Weather</b>									
	(15) 251XC	Weather Specialist	1,229	1,364	111.0	794	619	78.0	2,023	1,983	98.0
<b>Total 2500X CCS Skills</b>			<b>1,229</b>	<b>1,364</b>	<b>111.0</b>	<b>794</b>	<b>619</b>	<b>78.0</b>	<b>2,023</b>	<b>1,983</b>	<b>98.0</b>
<b>2700</b>		<b>Command Control Systems Operations</b>									
	(16) 272XC	Air Traffic Control	2,515	2,958	117.6	1,581	1,218	77.0	4,096	4,176	102.0
	(17) 273XC	Combat Control	147	121	82.3	76	55	72.4	223	176	78.0
	(18) 274XC	Command and Control	1,182	1,200	101.5	829	639	77.1	2,011	1,839	91.4
<b>Total 2700X CCS Skills</b>			<b>3,844</b>	<b>4,279</b>	<b>111.3</b>	<b>2,486</b>	<b>1,912</b>	<b>76.9</b>	<b>6,330</b>	<b>6,191</b>	<b>97.6</b>
<b>3000</b>		<b>Communications - Electronics Systems</b>									
	(19) 303X1	Air Traffic Control Radar (note b)	635	715	112.6	333	267	80.2	966	962	101.4
	(20) 304X1	Navigation Aids Equipment (note c)	692	641	92.6	298	260	87.2	990	901	91.0
	(21) 304X4	Ground Radio Communications	2,656	2,101	79.1	1,134	1,022	90.1	3,790	3,123	82.4
	(22) 304X6	Space Communications System Equip.	360	301	83.6	163	142	87.1	523	443	84.7
<b>Total 3000X CCS Skills</b>			<b>4,343</b>	<b>3,758</b>	<b>86.5</b>	<b>1,928</b>	<b>1,691</b>	<b>87.7</b>	<b>6,271</b>	<b>5,449</b>	<b>86.9</b>
<b>3100</b>		<b>Missile Electronic Maintenance</b>									
	(23) 316X0	Missile Systems Analyst (note d)	9	24	266.7	27	22	81.5	36	46	127.6
	(24) 316X0C	Missile Systems Analyst (BQM-109)	3	4	133.3	6	4	66.7	9	8	88.9
	(25) 316X0G	Missile Systems Analyst (WS-133A/CDB)	379	386	101.8	263	195	74.1	642	581	90.5
	(26) 316X0T	Missile Systems Analyst (AGM-69A)	320	306	95.6	189	150	79.4	509	456	89.6
	(27) 316X2	Missile Electronics Equip.	1	5	500.0	10	6	60.0	11	11	100.0
	(28) 316X2F	Missile Electronics Equip. (LQM-25)	67	59	88.1	34	28	82.4	101	87	86.1
	(29) 316X2G	Missile Electronics Equip. (WS-133A, WS-133A/M, WS-133B) (note a)	58	56	96.6	27	24	88.9	85	80	94.1
	(30) 316X2T	Missile Electronics Equip. (AGM-69A)	51	47	92.2	23	14	60.9	74	61	82.4
<b>Total 3100X CCS Skills</b>			<b>888</b>	<b>887</b>	<b>99.9</b>	<b>579</b>	<b>443</b>	<b>76.5</b>	<b>1,467</b>	<b>1,330</b>	<b>90.7</b>

a/Although this AFSC does not meet the percentage manning criteria to be a CCS skill, the Air Force chose to include the occupation since all other 2080X and 3160X occupations met the criteria. The Air Force felt that treating certain skills differently could prove counterproductive and could create a disincentive by attracting more people to the skills meeting CCS manning criteria.

b/The skill level 7 manning is borderline at 80.2 percent for designation as a CCS skill.

c/This skill does not presently meet the percentage manning criteria of a CCS skill. However, due to the ongoing effort to restructure AFSCs, the Air Force expects the skill level 7 authorizations to increase significantly. The AFSC will be closely monitored and if warranted will be removed from the CCS list.

d/This skill was considered borderline for designation as a CCS skill with skill level 7 manning at 81.5 percent. Because the Air Force considers the skill a critical one, it was designated CCS to warrant additional management attention.

**AIR FORCE CHRONIC CRITICAL SHORTAGE (CCS) SKILLS  
PROJECTIONS FOR FISCAL YEAR 1982**

Career Field	Air Force Specialty Code	Title	Skill Level 5 (E-4 and E-5)		Skill Level 7 (E-6 and E-7)		Skill Levels 5 and 7 (E-4 thru E-7)	
			Auth.	Asgn.	Auth.	Asgn.	Auth.	Asgn.
3200X		Avionics Systems						
	(31) 321J0X	Bomb-Navigation Sys. Mech. (B-52E/F/G/H)	319	260	81.5	119	58.9	379
	(32) 321J0L	Bomb-Navigation Sys. Mech. (B-52C/D)	61	55	90.2	20	62.5	93
	(33) 321J1E	Defensive Fire Control Sys. Mech. (F-4E)	50	56	112.0	20	69.0	79
	(34) 321J20	Weapons Control Sys. Mech. (F-4E)	452	329	72.8	179	80.4	631
	(35) 322K2A	Avionics Sensor Sys. Recon. Spec.	124	79	63.7	37	67.3	179
	(36) 322K2B	Avionics Sensor Sys. Recon. Spec.	313	244	78.0	121	67.8	434
	(37) 322K2C	Electro-Optical Sensors Spec.	134	114	85.1	51	86.4	193
	(38) 325N0	Auto Flight Control Spec.	757	709	93.7	351	77.2	1,108
	(39) 325X1	Avionics Instrument Sys. Spec.	1,100	980	89.1	348	85.3	1,508
	(40) 326M0D	Avionics Aerospace Ground Equip. Spec.						
	(41) 326M0X	Avionics Aerospace Ground Equip. Spec. (A-7D/C-5)	28	22	78.6	18	55.6	46
3600X	(42) 326M4X	Integrated Avionics Electronic Warfare Spec.	332	247	74.4	131	66	313
	(43) 326M5X	Int. Avionics Computerized Test Spec.	757	690	91.1	294	72.1	463
	(44) 326M6X	Int. Avionics Manual Test Spec.	261	240	92.0	105	75.2	1,051
	(45) 326M7X	Int. Avionics Attack Control Sys. Spec.	585	479	81.9	79	75.2	902
	(46) 326M8X	Int. Avionics Instruments & Flt. Control	514	425	82.7	142	55.9	319
	(47) 328N0	Int. Avionics Communications & Nav. Spec.	573	371	64.7	114	57.0	621
	(48) 328N2	Avionics Communications Spec.	1,210	896	74.0	200	49.0	714
	(49) 328N3	Avionics Communications Spec.	118	110	93.2	121	49.0	539
		Airborne Warning & Control Radar Spec.	1,712	1,165	68.0	367	73.7	820
		Electronic Warfare Sys. Spec.	9,400	7,471	79.5	408	66.3	1,708
								199
								2,327
4000X		Wire Communications Sys. Maint.						
	(50) 362X3	Missile Control Comm. Sys. Spec.	76	68	89.5	36	85.7	118
4200X		Intricate Equipment Maint.						
	(51) 404X1	Aerospace Photo System Spec.	230	139	60.4	51	62.2	312
4200X		Aircraft Systems Maint.						
	(52) 423N0	Aircraft Electrical Systems Spec.	1,782	1,451	81.4	473	68.3	2,475
	(53) 423X1	Acraft. Environmental Systems Mech.	1,185	877	74.0	294	75.4	1,575
	(54) 423X2	Aircraft. Fuel System Mech.	598	516	86.3	215	84.6	852
	(55) 423X3	Acraft. Pneumatics Sys. Mech.	1,219	760	62.3	321	79.1	1,612
	(56) 423X4	Aircraft. Fuel System Mech.	1,789	1,379	77.1	485	81.7	2,402
	(57) 423X5	Aircraft. Fuel System Mech.	3,690	3,181	86.2	1,010	81.5	4,930
	(58) 426X3	Aircraft. Fuel System Mech.	717	578	80.6	239	88.8	986
	(59) 427X1	Aircraft. Fuel System Mech.	872	628	72.0	209	82.9	1,124
	(60) 427X5	Aircraft. Fuel System Mech.	1,724	1,175	68.2	458	85.1	2,262
Total 3200X CCS Skills			9,400	7,471	79.5	3,879	68.7	13,279
Total 3600X CCS Skills			76	68	89.5	42	85.7	118
Total 4000X CCS Skills			230	139	60.4	51	62.2	312
Total 4200X CCS Skills			13,576	10,545	77.7	4,642	79.8	18,218
Total 4200X CCS Skills			13,576	10,545	77.7	4,642	79.8	18,218



**AIR FORCE CHRONIC CRITICAL SHORTAGE (CCS) SKILLS  
PROJECTIONS FOR FISCAL YEAR 1982**

Career Field	Air Force Specialty Code	Title	Skill Level 5 (E-4 and E-5)		Skill Level 7 (E-6 and E-7)		Skill Levels 5 and 7 (E-4 thru E-7)	
			Auth.	Asgn.	Auth.	Asgn.	Auth.	Asgn.
4300X		Aircraft Maintenance						
	(61) 431X1	Tactical Acft. Maint. Spec.	10,080	8,877	4,677	3,909	14,757	12,786
	(62) 431X2	Airlift/Bombardment Acft. Maint. Spec.	0	1	4,529	3,756	4,529	3,757
Total 4300X CCS Skills			10,080	8,878	9,206	7,665	19,286	16,543
4400X		Missile Maintenance						
	(63) 443X0E	Missile Maint. Spec. (LGH-25)	98	91	82	59	180	150
	(64) 445X0F	Missile Facilities Spec. (LGH-25, Maint.)	156	158	88	63	244	221
	(65) 445X0G	Missile Facilities Spec. (MS-133B, MS-133A/M)	328	391	177	106	505	497
	(66) 445X1	Missile Liquid Propellant Sys. Maint. Spec.	93	60	33	26	126	86
Total 4400X CCS Skills			675	700	380	254	1,055	954
4600X		Munitions & Weapons Maint.						
	(67) 461X0	Munitions Systems Maint. Spec.	3,116	3,090	1,180	942	4,296	4,032
	(68) 462X0	Aircraft Armament Sys. Spec.	5,934	5,533	1,988	1,534	7,922	7,067
	(69) 463X0	Nuclear Weapons Spec.	663	602	346	237	1,009	839
	(70) 464X0	Explosives, Ordnance, Disposal Spec.	410	397	273	191	683	588
Total 4600X CCS Skills			10,123	9,622	3,787	2,904	13,910	12,526
4700X		Vehicle Maintenance						
	(71) 472X1C	Special Vehicle Mech. (Materials Handling)	229	200	0	0	229	200
Total 4700X CCS Skills			229	200	0	0	229	200
5100X		Computer Systems						
	(72) 511X1	Computer Programming Specialist	1,056	993	751	586	1,807	1,579
Total 5100X CCS Skills			1,056	993	751	586	1,807	1,579
5500X		Structural/Pavements						
	(73) 553X0	Engineering Assistant Spec.	571	499	343	261	914	760
Total 5500X CCS Skills			571	499	343	261	914	760
TOTAL ALL AF CCS SKILLS (73)			60,383	53,504	32,219	25,297	92,602	78,891
NUMERIC SHORTAGES FOR CCS SKILLS (authorized minus assigned)			6,789	6,922	13,711			

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